Content-addressable memories (CAMs) are hardware search engines that are much faster than algorithmic approaches for search-intensive applications. CAMs are composed of
conventional semiconductor memory (usually SRAM) with added comparison circuitry that enables a search operation to complete in a single clock cycle. In case of advanced applications we need large sized CAM but it has the disadvantage of high power consumption. To overcome the drawbacks we need to reduce the power consumption of the CAM when we search the data. This paper proposes an idea for improving power, area and performance of the system of recently proposed high Performance Hybrid-Type CAM Designs. For this we replace the basic 9T CAM cell with a 4T CAM cell. The simulation results show the success of the method.

Reference

- An Improved Comparison Circuit for Low Power Pre-computation-Based Content-Addressable Memory designs by Yu-Ting Pai, Chia-Han Lee, and Shanq-Jang Ruan, IEEE. Solid-State Circuits, vol. 97, no. 9, June. 2009.

Index Terms

Computer Science Distributed Systems

Key words

Basic 9T CAM cell 4T CAM cell NOR-Type
Array
NAND-Type Array
Hybrid CAM Design.